

Bee Diseases and Symptoms

Disease	Symptoms																											Frequency of detection						
	Affects adults	Affects larvae	Affects capped	Perforated cappings	Mummies	Patchy brood	Larvae discoloured	Larvae twisted	Larvae no segmentation	Scales	Reduced adult popln.	Crawling outside hive	Disorientated	Dead in front of hive	Trembling	Black, shiny hairless	Fighting between bees	Refused entrance	Stunted abdomens	Distended abdomen	K wing	Extended proboscis	Crumpled wings	Front legs paralysed	Wings cloudy	Dysentery	Body falls apart		Supersedure	Queen loss	Bad temper	Serious/fatal	Of concern	Mild
Chalkbrood		X	X	X	X	X	S			X																						X		common
Stonebrood	X	X	X	X	X	X					X																					X		rare
American foulbrood			X	X		X			X	X												SL									X		uncommon	
European foulbrood		X	X	S		X	X	X	X																						X		common	
Varroa	X	X	X	S		X										S															X		ubiquitous	
Parasitic Mite Synd.	X	X	X	X		X	X	X	X	X	X					S		X				XA	X							X		common		
Acarine	X									X	S	S									S										X		common	
Nosema apis	X					S				X	X		X							X	S					X		S	S		X		common	
Nosema ceranae	X					S				X			X															S			X		common	
Amoeba	X									X	S															S						X		? Common
Sacbrood	X	X	X	X		X	X	X	X	X																						X		uncommon
Chronic Bee Paralysis	X										X		X	X	X	X				X	X					S				X		common		
Deformed Wing Virus	X		X													X	X					X	X							X		common		
Kashmir Bee Virus	X	X	X								X		X	X	S						X										?		? rare	
Israeli acute paralysis	X	X	X							X	X		X	X	S						X										?		? Not in UK	
Kagugo Virus	X																												X		?		? UK	
Bee Virus X	X									X			X																		?		?	
Bee Virus Y	X									X			X																		?		?	
Acute Bee Paralysis	X	X	X							X			X																	X		common		
Slow Paralysis Virus	X	X	X				X			X															X						X		?	
Black Queen Cell V		X	X																										X		?		?	
Filamentous Virus	X									X																						?		?
Cloudy Wing Virus	X									X																S					X		?	
Colony Collapse Disorder	X									X																				X			not in UK	
Melanosis of Queen	X																											X	S		?		?	
Septicaemia	X																											X			X		?	
Chilled Brood		X	X	X		X	X		X										X													X		common
Starvation	X	X	X				X	X		X			X																		X		common	
Robbing	X	X								S			X			X	X	X											X		S	X	common	
Diploid drones inbreeding						X																									X		?	
Pesticides	X	X								X	X	X	X	X	X						S	SA						S	S	X	X		?	

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Notes

The symptoms are a little subjective, for example all diseases can potentially cause population reduction if severe enough. For diseases with obvious symptoms it is hoped they would be spotted before the population declines, but for diseases with few symptoms, the first thing to be noticed may be reduction in population.

Old books suggest symptoms for Acarine which are now recognized as those for Chronic Bee Paralysis Virus with which it is sometime associated, bees with Acarine may still be flying and foraging apparently normally.

One effect of many of the diseases is shortened life which of course is not recognizable at the hive entrance as many bees die in the field. Another effect is lowered immunity and susceptibility for other diseases so it is not uncommon to have more than one disease at the same time.

For example, associated with heavy Varroa infestation might be: Acute Bee Paralysis Virus, Sacbrood virus, Deformed Wing Virus, Slow Paralysis Virus, Kashmir Bee Virus and Black Queen Cell virus which are actively spread through the punctures Varroa makes when feeding. Also more loosely associated with Varroa are Varroa Destructor Virus 1, Septicaemia and sometimes Chronic Bee Paralysis Virus.

Bees with Nosema (especially ceranae) have lowered immunity so might be vulnerable to: Chalkbrood, Bee Virus X and Y, Black Queen Cell Virus and filamentous Virus, in fact some research suggests that 60% of colonies with Nosema also have Chalkbrood (which can be used as an indicator) and 30% have Amoeba.

Nosema ceranae and Sacbrood (which affects adults too) cause reduced pollen collection and hence poor nutrition and poor winter bees resulting in higher winter colony losses. Winter losses can be caused by so many things, both disease and environmental, that it was not particularly enlightening to add a column for it. However high Varroa, Nosema apis, Deformed Wing Virus and Acute Bee Paralysis Virus, along with Starvation and Queen loss are particularly associated with winter losses, Nosema ceranae can cause losses at any time of year, quite often in the summer.

Key:

X – Symptom usually present

S – Symptom sometimes present

A – Adult

L – Larvae

? – not enough information known